

What is claimed is:

1. Vehicle electrical system, comprising:

- a fuel cell auxiliary power unit and
- a DC/DC converter for matching the DC voltage generated by the fuel cell to the voltage of the vehicle electrical system, the DC/DC having an input connected to an output of the fuel cell, a first output for delivering converted electrical power and a second output for delivering unconverted electrical power,

wherein at least one electrical consumer is connected to said second output so that some of the electrical power delivered from the fuel cell is supplied to the at least one electrical consumer without conversion by the DC/DC converter.

2. Vehicle electrical system as claimed in claim 1, wherein the at least one consumer is a high wattage consumer.

3. Vehicle electrical system as claimed in claim 2, wherein the at least one consumer is a compressor motor of an electrically driven air conditioning compressor of a motor vehicle climate control system.

4. Vehicle electrical system as claimed in claim 4, wherein the compressor has a mechanical compression stroke triggering device for controlling the wattage of the air conditioning compressor independently of the rpm of the compressor motor.

5. Vehicle electrical system as claimed in claim 1, wherein the fuel cell auxiliary power unit has an electrical wattage of about 5 kW.

6. Process for operating an electrical consumer with electrical power, comprising the steps of:

delivering a DC voltage generated by a fuel cell auxiliary power unit to a DC/DC converter,

converting a portion of the DC voltage generated by the fuel cell auxiliary power unit to a voltage that is matched to the voltage of the vehicle electrical system,

providing some of the electrical power delivered from the fuel cell auxiliary power unit to at least one electrical consumer without conversion by the DC/DC converter.

7. Process as claimed in claim 6, wherein

- the fuel cell is connected to an input of the DC/DC converter so that all the useful electrical power delivered from the fuel cell is supplied to the input of the DC/DC converter, and

- some of the electrical power delivered from the fuel cell (10) is taken from an unconditioned output of the DC/DC converter without conversion by the DC/DC converter.

8. Process as claimed in claim 6, wherein the at least one consumer is a high wattage consumer.

9. Process as claimed in claim 8, wherein at least one consumer is the compressor motor of an electrically driven air conditioning compressor of a motor vehicle climate control system.

10. Process as claimed in claim 9, wherein the wattage of the air conditioning compressor is controlled independently of the rpm of the compressor motor via the mechanical triggering of the compression stroke.

11. Process as claimed in claim 6, wherein the electrical wattage of the fuel cell auxiliary power unit is about 5 kW.